

I claim:

1. A process for preparing a cellulose modified aggregate concrete
5 comprising:
selecting a quantity of cellulose material;
purifying and grinding said material so as to form purified cellulose fibers
therefrom;
drying said purified cellulose fibers;
10 preparing a fortifying solution comprised of compounds especially selected to
strengthen, reinforce and protect the aggregate concrete to be formed therefrom and
sufficient water to enable said components to be thoroughly absorbed upon and
within substantially all of said fiber;
applying said fortifying solution to and mixing said solution with the dry
15 cellulose fibers until said solution and the fortifying components therein have
thoroughly coated and penetrated said fibers; and
admixing a sufficient quantity of cement to said mixture so as to utilize
substantially all remaining water therein to hydrate said cement wherein a cellulose
20 modified aggregate concrete mixture is formed demonstrating sufficient hydration so
as to allow said concrete mixture to be press molded and be fully cured into any
desired shape without the necessity of extracting water therefrom.

2 The process of claim 1 wherein the cellulose material is a
manufactured paper fiber.

3. The process of claim 1 wherein the cellulose material is recycled
paper.

4. The process of claim 1 wherein the cellulose material is an industrial
30 waste material.

5. The process of claim 1 wherein the cellulose fibers are treated with boran borax prior to treatment with said fortifying solution.

6. The process of claim 1 wherein the cellulose fibers are treated with boric acid prior to treatment with said fortifying solution.

7. The process of claim 1 wherein the cellulose fibers are treated with an ammonia solution prior to treatment with said fortifying solution.

8. The process of claim 7 wherein the ammonia solution is an ammonium sulfate solution.

9. The process of claim 1 wherein the fibers are dried utilizing an artificial heat source.

10. The process of claim 1 wherein the fibers are dried utilizing a centrifuge.

11. The process of claim 1 wherein the fibers are sun-dried.

12. The process of claim 1 wherein the fortifying solution is comprised of calcium oxide, silica oxide, water proof sealer, activator and water.

13. The process of claim 12 wherein the activator is calcium chloride, calcium hydroxide or combinations thereof.

14. The process of claim 12 wherein said fortifying solution is further comprised of fly ash.

15. The process of claim 12 wherein said fortifying solution further comprises calcium sulfate, calcium carbonate or combinations thereof.

16. The process of claim 12 wherein said fortifying solution further comprises calcium silicate, aluminum oxide or combinations thereof.

17. The process of claim 1 wherein said fortifying solution is comprised of calcium chloride, water proof sealer, calcium sulfate, fly ash, calcium oxide and water.

18. The process of claim 17 wherein said calcium chloride is selected to be present in an amount equal to approximately 3/4 gallons for each 75 gallons of water.

19. The process of claim 17 wherein said water proof sealer is selected to be present in an amount equal to approximately 3/4 gallons for each 75 gallons of water.

20. The process of claim 17 wherein said calcium sulfate is selected to be present in an amount equal to approximately 21.5 weight percent based upon the total dry weight of the fortifying solution.

21. The process of claim 17 wherein said fly ash comprises approximately 30 weight percent of said fortifying solution based on the total dry weight thereof.

22. The process of claim 17 wherein said calcium oxide comprises approximately 65 weight percent of said fortifying solution based on the total dry weight thereof.

23. The process of claim 1 wherein the cement admixed to the coated fibers is Portland cement.

24. The process of claim 1 wherein the cement admixed to the coated fibers selected to be present in an amount equal to approximately 15 weight percent

to 50 weight percent of the total dry weight of the fortifying solution.

25. The process of claim 1 wherein the cement admix to the coated fibers is admixed with sand.

26. A process for preparing a cellulose modified aggregate while simultaneously reclaiming submerged land comprising:

selecting a cellulose based waste material;

adding said cellulose based waste material to a selected body of water;

allowing said cellulose waste material to remain in said water until said material has absorbed a substantial amount of water therefrom;

removing said cellulose waste material from said body of water and allowing said material to sun-dry;

grinding said treated material so as to remove extraneous materials therefrom and so as to comminute said materials into fibers;

adding fortifying solution to said sun-dried cellulose fibers so as to strengthen, preserve, protect and fortify said material;

treating said sun-dried fibers with at least one activating agent and at least one water sealer admix component under high pressure and at increased temperature to cure said treated fibers into a raw aggregate; and

further grinding said raw aggregate so as to yield a lightweight, waterproof material which may be easily used to produce a modified cellulose aggregate cement with the addition of cement and water.

27. The process of claim 26 wherein the cellulose material is recycled paper.

28. The process of claim 26 wherein the cellulose material is an industrial waste material.

29. The process of claim 26 wherein the cellulose material is natural waste material.

30. The process of claim 29 wherein the natural waste material is aquatic vegetation.

31. The process of claim 26 wherein the submerged land is a lake, pond or swamp land.

32. The process of claim 26 wherein the fortifying solution is comprised of calcium oxide, silica oxide and water.

33. The process of claim 26 wherein the fortifying solution is further comprised of fly ash.

34. The process of claim 32 wherein the fortifying solution is further comprised of fly ash.

35. The process of claim 32 wherein the fortifying solution further comprises calcium sulfate, calcium carbonate or combinations thereof.

36. The process of claim 32 wherein the fortifying solution further comprises calcium silicate, aluminum oxide or combinations thereof.

37. The process of claim 26 wherein the activator is calcium chloride, calcium hydroxide or combinations thereof.

38. The process of claim 26 further comprising adding water and cement to said raw aggregate material so as to form a cellulose modified aggregate cement.

39. The process of claim 38 further comprising the addition of sand to

said material to form a cellulose modified aggregate cement.

40. The process of claim 26 wherein the sun-dried cellulose waste material is treated with an anti-mold solution to prevent the growth of mold thereupon and then sun-dried;

41. The process of claim 40 wherein the anti-mold solution is ammonium sulfate.

42. The process of claim 40 wherein an artificial heat source is utilized to dry the cellulose waste material treated with an anti-mold solution.

43. The process of claim 26 wherein the aggregate is cured at a temperature of 120 degrees.

44. The process of claim 43 wherein an artificial heat source is utilized to cure said aggregate.

45. The method of claim 26 wherein an artificial heat source is utilized to dry the cellulose waste material.